

Application No.: 10/694,072
Final Office Action Dated: April 6, 2006
Response to Final Office Action Dated: June 12, 2006

REMARKS

Claims 1-19 are pending and remain for consideration. Claims 1, 5 and 10 are amended herein.

Claims 18 and 19 are objected to as allegedly being in improper form because a multiple dependent claim cannot depend from a previous multiple dependent claim. The rejection is traversed and reconsideration is respectfully requested.

Claims 18 and 19 were amended in the Preliminary Amendment dated March 30, 2004 so as to remove such multiple dependencies. However, the Examiner states in the Office Action dated April 6, 2006 that there is no preliminary amendment of record in the application. In response to the Examiner, a copy of the Preliminary Amendment as filed on March 30, 2004 is attached as Exhibit A, and a copy of the stamped filing receipt showing that the Preliminary Amendment was received by the U.S. Patent and Trademark Office on April 1, 2004 is attached as Exhibit B. Therefore, it is respectfully submitted that the Preliminary Amendment should be made of record, and consequently the objection to these claims has already been overcome.

Claims 1-3, 5, 6, 16 and 17 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Lesesky (U.S. Pat. No. 5,917,632). The rejection is traversed and reconsideration is respectfully requested.

Applicant respectfully submits that the data communications coupler disclosed in Lesesky does not anticipate claim 1 of the present application. Claim 1 of the present application recites an optical signal coupling for two vehicles coupled with one another, with a first coupling part directly fixed to one vehicle and a second coupling part directly fixed to the other vehicle.

In contrast to this, the optical signal coupling of Lesesky comprises a second coupling part 31, which is fixed to a vehicle (i.e., the trailer) but a first coupling part 21, which is not fixed to a vehicle. Instead, the first coupling part

Application No.: 10/694,072
Final Office Action Dated: April 6, 2006
Response to Final Office Action Dated: June 12, 2006

21 is only configured to be connected to an air hose, which is in turn connected or mounted to a tractor (cf. column 5, lines 26-32).

An important aspect of the claimed invention is that the two coupling parts are directly fixed to different vehicles. For example, as can be discerned from paragraph [0070] of the published specification of the present application, the coupling parts 10 and 11 can be arranged in coupling heads of a mechanical rail vehicle coupling and thereby be fixed to the respective vehicles. Alternatively, the coupling parts 10 and 11 can be arranged in contact carriers 74 and 76 of a conductive coupling, which contact carriers are provided at the respective vehicles (cf. paragraphs [0062] and [0063], and figure 8), whereby the coupling parts are also fixed to the different vehicles.

Since the vehicles, which are coupled with one another, are never connected totally rigidly with one another, in operation there will be relative movement between the first and the second coupling parts which in ordinary optical signal couplings for vehicles led to heavy attenuation of the optical signals in their transmission from one light conductor to the other (cf. paragraph [0005] of the specification of the present application). An important feature of the present invention is to provide an optical signal coupling which mitigates the attenuation problem involved with the relative movement of the two coupling parts by providing the coupling parts with active elements, as is described in detail in paragraphs [0010] and [0011] of the present specification.

For an anticipation rejection to be appropriate, each and every element or limitation in a rejected claim must be disclosed in a single prior art reference used in the claim rejection. Because Lesesky does not teach or suggest an optical signal coupling for two vehicles coupled with one another including a first coupling part directly fixed to one vehicle and a second coupling part directly fixed to the other vehicle, it cannot be maintained that Lesesky anticipates claim 1. Moreover, because claims 2, 3, 5, 6, 16 and 17 each depend from and thereby

Application No.: 10/694,072
Final Office Action Dated: April 6, 2006
Response to Final Office Action Dated: June 12, 2006

incorporate the limitations of claim 1, these dependent claims are not anticipated by Lesesky for at least the reasons set forth for claim 1.

Claim 4 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lesesky (U.S. Pat. No. 5,917,632). The rejection is traversed and reconsideration is respectfully requested.

It is also respectfully submitted that claim 4 is not obvious to a person of ordinary skill in the pertinent art in view of Lesesky. Claim 4 ultimately depends from and thereby incorporates the limitations of claim 1. In order to arrive at the subject matter incorporated into claim 4 from claim 1, one would have to directly fix the first coupling part 21 of Lesesky directly at the tractor. This is not an obvious measure because in that case the signal coupling 20 of Lesesky could not be coupled and uncoupled any more, since the coupling and uncoupling of the coupling parts 21 and 31 of Lesesky requires a rotation relative to one another around the optical axis, as can be discerned from figure 1 of Lesesky.

In addition, according to column 6, lines 17-23 of Lesesky, the coupling parts 21 and 31 are joined together with a frictional fit between respective elastomeric seals along front portions thereof and with respective interlocking upper and lower flanges which extend outwardly from the respective bodies. Accordingly, the signal coupling 20 of Lesesky would allow absolutely no relative movement between the coupling parts 21 and 31 when it is in its coupled state. However, as mentioned before, a certain degree of tolerance with regard to relative movement is required when the coupling parts are fixed at different vehicles because the vehicles themselves are never completely rigidly connected with one another. Therefore, it would not have been obvious to fix both coupling parts 21 and 31 at respective vehicles in order to arrive at the subject matter of claim 1. In view of the foregoing, it is respectfully submitted that claim 4 is unobvious in view of Lesesky.

Application No.: 10/694,072
Final Office Action Dated: April 6, 2006
Response to Final Office Action Dated: June 12, 2006

Claims 10-12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including the limitations of the base claim and any intervening claims.

Claim 10 is being rewritten herein in independent form to include the limitations of base claim 1 and intervening claims 7 and 8. It is therefore respectfully submitted that amended claim 10 is in allowable form. Moreover, because claims 11, 12 and 14 each depend from and thereby incorporate the limitations of claim 10, claims 11, 12 and 14 are allowable for at least the reasons set forth for claim 10.

In view of the foregoing, it is respectfully submitted that claims 1-19 are in condition for allowance. All issues raised by the Examiner having been addressed, an early action to that effect is earnestly solicited.

No fees or deficiencies in fees are believed to be owed. However, authorization is hereby given to charge our Deposit Account No. 13-0235 in the event any such fees are owed.

Respectfully submitted,

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EXHIBIT A

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313, ON THE DATE INDICATED BELOW.


SIGNATURE OF PERSON MAILING PAPER

3/30/04
DATE OF SIGNATURE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Martin Wolfgang Meyer

for OPTICAL SIGNAL COUPLING

Serial No.: 10/694,072

Filed On: October 27, 2003

) Group Art Unit 2872

) Our Docket No. 6841-02

Hartford, Connecticut, March 30, 2004

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313

PRELIMINARY AMENDMENT

Sir:

Applicant respectfully requests amendment of the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

Appl. No. 10/694,072
Prel. Amdt. dated Mar. 30, 2004

In the Claims

Applicant respectfully requests amendment of the claims as follows:

1. (Original) An optical signal coupling for two vehicles coupled with one another, especially rail vehicles coupled with one another, with a first coupling part fixed to one vehicle and a second coupling part fixed to the other vehicle, between which optical signals are transmitted, characterized in that the first coupling part contains a sending device which creates the optical signals to be transmitted, and the second coupling part contains a receiving device which detects the transmitted optical signals.
2. (Original) An optical signal coupling according to claim 1, wherein the first coupling part includes a microprocessor which controls the creation of the signals in the sending device.
3. (Original) An optical signal coupling according to claim 1, wherein the second coupling part includes a microprocessor which processes the signals detected in the receiving device.
4. (Original) An optical signal apparatus according to claim 2, wherein the microprocessor of the first coupling part is so programmed that it merges several individual signals into multiplexed signals and the microprocessor of the second coupling part is so programmed that it divides the multiplexed signals into several individual signals.
5. (Original) An optical signal coupling according to claim 1, wherein the sending device has at least one LED for creating the optical signal.
6. (Original) An optical signal coupling according to claim 1, wherein the receiving device has a photo diode for detecting the optical signal.

Appl. No. 10/694,072
Prel. Amdt. dated Mar. 30, 2004

7. (Original) An optical signal coupling according to claim 1, wherein each of the first and second coupling parts, is a light conducting element, of which elements one has a spherically concave end surface and the other has a spherically convex end surface with an identical radius of curvature and of which at least one is so elastically biased that the light conducting elements are pressed against one another with their end surfaces, when the two vehicles are coupled with one another.

8. (Original) An optical signal coupling according to claim 7, wherein each of the light conducting elements includes a light opaque sleeve and a transparent core received in the sleeve.

9. (Original) An optical signal coupling according to claim 8, wherein the wall thicknesses of the sleeves in the region of the end surfaces have a value equal to at least $1/10$, and preferably of at least $1/5$, of the radius of curvature of the end surfaces.

10. (Original) An optical signal coupling according to claim 8, wherein the light opaque sleeves are electrically conducting and in that upon the pressing together of the end surfaces the light conducting elements of the first and second coupling parts establish an electrical contact between the associated sleeves through which electric signals from one coupling part can be transmitted to the other coupling part.

11. (Original) An optical signal coupling according to claim 10, wherein the section of each sleeve which is part of the end surfaces is plated with hard gold.

12. (Original) An optical signal coupling according to claim 10, wherein at least a portion of the signal which is transmitted between the coupling parts as an optical signal is additionally transmitted through the sleeves of the two coupling parts as an electric signal.

Appl. No. 10/694,072
Prel. Amdt. dated Mar. 30, 2004

13. (Original) An optical signal coupling according to claim 7, wherein each of the first and second coupling parts has a housing on one axial end of which a sleeve-like section is formed in which the light conducting element is axially slidably supported and is elastically biased in the direction toward the one axial end, and at the other end of which a connector pin is formed which is designed for placement in a contact carrier.

14. (Original) An optical signal coupling according to claim 10, wherein between the sleeve of the light conducting element and the sleeve-like section of the housing of each coupling part an electrical sliding contact exists through which electric signals are transmittable between the sleeve-like section and the sleeve.

15. (Original) An optical signal coupling according to claim 13, wherein the connection pin comprises two sections insulated from one another of which one is connected with ground potential and the other of which is connected with an electric signal conductor when the connecting pin is installed in the contact carrier.

16. (Original) An optical signal coupling according to claim 1, wherein the coupling parts are arranged in the coupling heads of a mechanical coupling for rail vehicles.

17. (Currently Amended) A conductive coupling for the connection of conductors of two rail vehicles couplable with one another, with two contact carriers each of which is connected to a respective one of the rail vehicles, wherein at least one signal coupling part with a sending device is arranged in one contact carrier and in that at least one signal coupling par with a receiving device is arranged in the other contact carrier which coupling parts together form an optical signal coupling according to ~~one of claims 1 to 14~~ claim 1.

Appl. No. 10/694,072
Prel. Amdt. dated Mar. 30, 2004

18. (Currently Amended) A conductive coupling according to claim 17, wherein in each contact carrier is arranged both a signal coupling part with a sending device and a signal coupling part with a receiving device of which coupling parts together form two optical signal couplings ~~according to one of claims 1 to 11.~~

19. (Original) A conductive coupling according to claim 18, wherein the sending device and the receiving device of the coupling parts of each contact carrier are connected with a common microprocessor which controls the generation of the signals in the sending device and processes signals detected in the receiving device.

Appl. No. 10/694,072
Prel. Amdt. dated Mar. 30, 2004

REMARKS

The above amendments are being presented to remove multiple dependencies from its claims.

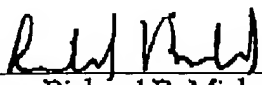
Applicant has now removed all multiple dependencies from the claims and respectfully requests a refund in the amount of \$452.00 for the multiple dependency fees charged on October 30, 2003 to Deposit Account 13-0235.

Therefore, please credit a refund in the amount of \$452.00 to Deposit Account No. 13-0235.

Should the Examiner have any questions regarding the present application, Applicant respectfully requests that the Examiner contact Applicant's representative at the phone number listed below.

While Applicant believes no fees are due with the filing of this preliminary amendment, please charge any deficiencies in fees associated with this filing to our Deposit Account No. 13-0235.

Respectfully submitted,

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EXHIBIT B

Ser/Pat/TM No. <u>10/694,072</u>	Date Received: <u>O I P E</u>
File No. <u>6841-02</u>	<u>APR 01 2004</u>
Inventor Name(s) <u>Meyer</u>	RECEIVED PATENT & TRADEMARK OFFICE
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<input type="checkbox"/> Specification - # of pages..... <input type="checkbox"/> Claims - # of pages..... <input type="checkbox"/> Drawings - # of sheets..... <input checked="" type="checkbox"/> Amendment <u>Preliminary</u> <input type="checkbox"/> Issue Fee/Publication Fee <input type="checkbox"/> English translation document <input type="checkbox"/> Assignment <input type="checkbox"/> Marked up copy of specification/claims <input type="checkbox"/> Clean copy of specification/claims <input type="checkbox"/> Dec/POA	<input type="checkbox"/> Transmittal letter <input type="checkbox"/> Check - \$ <input type="checkbox"/> IDS and PTO/SB/08A <input type="checkbox"/> Copies of IDS citations <input type="checkbox"/> Maintenance Fee <input type="checkbox"/> Extension of Time <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>